

## Smart bionic applications based on multiple stimulus response GO-PDANPs/PDMS bilayer flexible actuators

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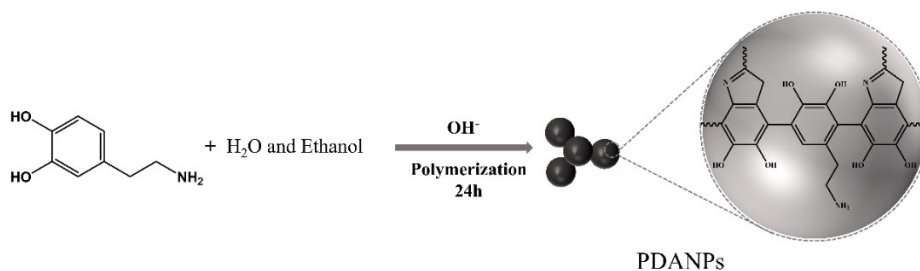


Fig. S1 Schematic diagram of the process of preparing PDNNPs by self-polymerization method

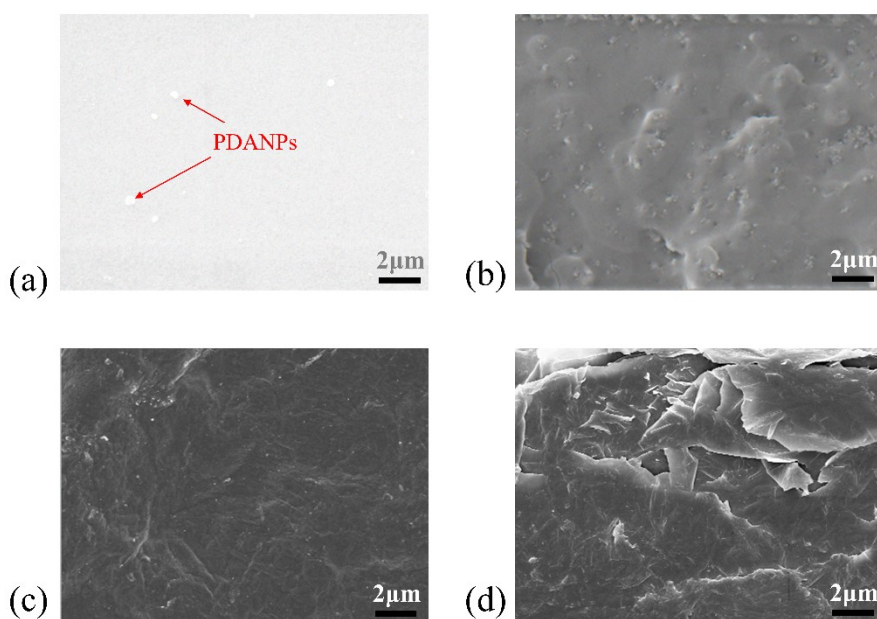


Fig. S2 Morphological characterization of both sides of GO-PDANPs/PDMS BFA. (a) Surface and (b) cross-sectional morphology of PDANPs/PDMS layers. (c) Surface and (d) cross-sectional morphology of the GO layer

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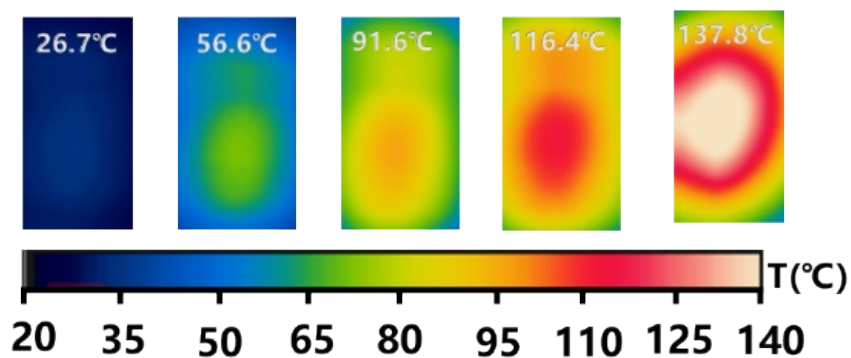


Fig. S3 Surface thermography of GO-PDANPs/PDMS BFA under near-infrared light irradiation

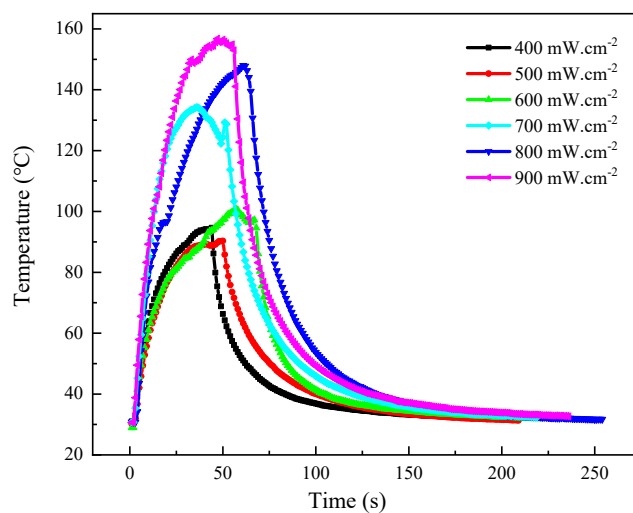


Fig. S4 Surface temperature versus time curve of GO-PDANPs/PDMS BFA under different NIR optical power density irradiation

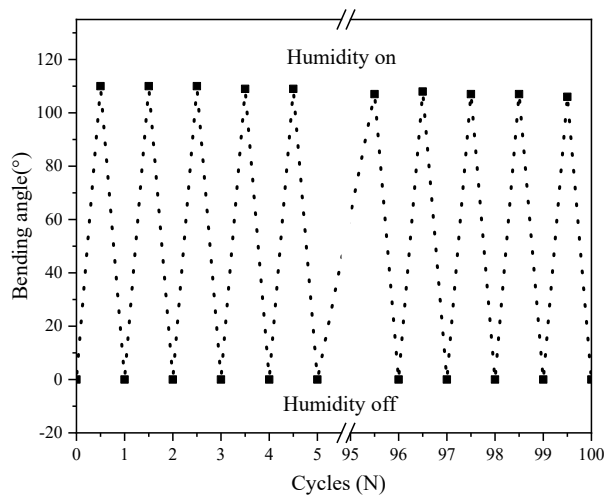


Fig.S5 Cyclic test of GO-PDANPs/PDMS BFA under humidity stimuli.

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